

## Description

# Candlewick-Fixing Device for Burning Candlewicks

### CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part of pending U.S. Non-provisional Patent Application 10/378,732, "Combination Candlewick-Straightening Device and Candlewick Flame Snuffer" filed on 03/04/2003.

### FEDERAL RESEARCH STATEMENT

[0002] Not Applicable

### BACKGROUND OF INVENTION

[0003] This invention relates to a candlewick-fixing device for use on burning candlewicks. The device has two tools, one a candlewick extracting and positioning device and the other a candlewick extinguishing device. It is also concerned with a new method of candlewick straightening that facilitates the re-positioning of a burning candlewick, and with the convenience of having a tool for extinguish-

ing the candle flame as part of the same device.

- [0004] Often included on candle labels is an approximate burn time. In order to maximize the burn time duration, the candlewick should remain upright as it burns. This upright position keeps the flame centered, and the candle will burn evenly from the center outwards, rather than burning too much on either side.
- [0005] Uneven burning can also create tall sidewalls after burning away the central portion of the candle. If the candle flame burns a hole in the thin sidewall, excess melted wax will pour out of the hole and leave a hot puddle of wax. This can leave an undesired mess and be a safety hazard.
- [0006] Candlewicks are susceptible to drafts created by heaters, air conditioners, movement by people, and other similar factors. These conditions can cause the candlewick to lean towards one side and either burn unevenly or put out the flame in the wax. Constant heat from the flame of the leaning wick can eventually crack a glass candleholder.
- [0007] Few products exist that assist in repositioning the candlewick once it has been lit and is burning. Many people use objects such as pens and silverware to reposition the candlewick, which damages the objects over time. Often these devices do a poor job of straightening the can-

dlewick, requiring frequent re-manipulation of the wick, or the candle burns unevenly. Rather than damaging household objects, what is required is a specially designed candlewick-fixing device that uses a method of straightening the wick that is easily performed by positioning the device around the candlewick to allow repositioning the candlewick with a simple horizontal motion. The device should be crafted of a material resistant to heat and tarnishing.

- [0008] People who frequently light candles commonly use candlewick flame snuffers. Snuffers come in many sizes and designs but must have an opening which surrounds the flame in order to block oxygen from reaching and reviving the flame when the snuffer is placed over the flame.
- [0009] Typically, snuffers serve only one purpose: they extinguish candle flames. Other common candle apparatus include lighters and wick cutters. These are used with un-lit candles. With the advent of many different devices to aid in candle lighting, users may accumulate a large quantity of tools.
- [0010] What is required is combining a candlewick-straightening device and a candlewick flame snuffer in a candlewick-fixing tool to eliminate the need for two separate tools for

use with lit candles. This combination candlewick straightening device and candlewick flame snuffer allows one to straighten the candlewick while it is burning using a flame-resistant wire loop on one end of the device and to extinguish the flame using the snuffer on the other end.

## **SUMMARY OF INVENTION**

[0011] The present invention provides a candlewick-straightening device and candlewick flame snuffer combined into one candlewick-fixing device. The combination device eliminates the need for two separate tools and provides one with both a method for straightening an ignited candlewick without having to extinguish the flame first, and a method for extinguishing the flame when desired.

[0012] The candlewick-fixing device is aesthetically pleasing with an angled shape that allows it to stand on its own. On one end of the device, a 16-gauge steel wire is bent to form a circular opening candlewick hook. This shape aids in the push-and-pull method of adjusting the candlewick. The hook slips over a candlewick as shown in figures 3 and 4. One can pull the wick backward, forward, and side-to-side by bringing the candlewick hook loop down around the wick and moving the candlewick hook accord-

ingly. As used in this application a candlewick straightening device is defined as one which may be positioned around a candlewick as shown in figures 3 and 4. The inside diameter of the candlewick straightening device circular opening has been sized to straighten a candle wick by surrounding the wick, thus allowing horizontal motion to contact and adjust the wick. A range of inside diameters to provide ease of lowering the loop around the wick is 1/4" (~6.35mm) to 1/2" (~12.7mm). Smaller diameters than this are too difficult to position around common candlewicks to be considered a candlewick straightening device. Candle wicking diameters are not readily available as wicking is selected by the thread count in the braid and the thread used. The diameter of a given weave will vary from batch to batch, and also the diameter of a wick will increase from cold conditions to burning conditions. An investigation into nominal candlewick diameters using a millimeter ruler shows that the cold diameter of wicks in typical candle sizes common around the home is in the range of 2 to 4 millimeters, however larger sizes are available and may be used in some specialty candles. The length of the handle shaft is approximately 9 inches to allow one easy access to candles in pillar candleholders.

The thin, bent handle aids in easy maneuverability by allowing one to access thin candleholders and hard-to-reach places. On the opposite end of the handle, attached by a retainer pin on a rotating mechanism, is a bell-shaped snuffer. The snuffer aids in putting out the candle flame by trapping the oxygen inside a contained space and preventing fresh oxygen from reaching and reviving the flame. This method of extinguishing the candle flame is safer than blowing out the flame because it prevents melted wax from being blown off the candle. The rotatable mounting of the snuffer on the handle permits the user to place the snuffer over a candlewick with the handle at a variety of angles relative to the candlewick. This allows the user to keep their hands out of the path of the hot gases from the burning wick when extinguishing a candle.

[0013] Objects and Advantages

[0014] One object of this invention is to provide a candlewick-straightening device that does not require extinguishing a candle flame to reposition the wick.

[0015] A second object of this invention is to provide a candlewick-straightening device to replace the use of household objects to position a burning candlewick in order to

save household objects from getting burned and becoming discolored.

- [0016] A third object of this invention is to provide a candlewick-straightening device to facilitate longer and more even burning of a candle.
- [0017] A fourth object of this invention is to provide a candlewick-straightening device in combination with a candle flame snuffer so the maintenance of a burning candle may be performed with a single candlewick-fixing device.
- [0018] A fifth object of this invention is to provide a candlewick-fixing device that may be stored on any surface without damaging the surface.

#### **BRIEF DESCRIPTION OF DRAWINGS**

- [0019] A more complete understanding of the present invention can be obtained by considering the detailed description in conjunction with the accompanying drawings, in which:
- [0020] Figure 1 is a side view of the candlewick-fixing device showing the range of rotating motion allowed by the retainer pin connecting the base of the snuffer to the handle.
- [0021] Figure 2 is a side view of the candlewick-fixing device resting on the accompanying saucer illustrating the way in which one would hold the device in either position.

[0022] Figure 3 is a close-up view of the O-shaped candlewick hook attached at one end of the candlewick-fixing device illustrating how one moves the candlewick hook down over the candlewick that has blown to one side.

[0023] Figure 4 is a close-up view of the O-shaped candlewick hook attached at one end of the candlewick-fixing device illustrating how one repositions the candlewick by pulling the candlewick hook back up once it has been looped around the slanted candlewick.

[0024] **Reference Numerals in Drawings**

[0025] These reference numbers are used in the drawing to refer to areas or features of the invention.

[0026] **11 Candlewick-fixing Device**

[0027] **14 Snuffer**

[0028] **15 Retainer**

[0029] **16 Candlewick Hook**

[0030] **17 Handle**

[0031] **18 Candlewick Hook Stem**

[0032] **19 Candlewick**

[0033] **20 Plate**

## DETAILED DESCRIPTION

[0034] Preferred Embodiment

[0035] Figure 1 illustrates the preferred embodiment of the candlewick-fixing device (11), a combination candlewick-straightening device and candlewick flame snuffer. The candlewick straightening device hook (16) is a metal wire formed into a circular loop shaped like the letter O, forming a circular opening. The candlewick hook has a stem (18) that connects to the device handle (17). Metal is used as it is resistant to the heat of a candle flame, and thin gage wire is used as it limits the heat transferred to the handle (17). The handle (17) is approximately 9 inches in length with a 45-degree bend two inches from the candlewick hook (16). On the opposite end of the handle (17), a brass bell-shaped flame snuffer (14) attachment end is attached to the handle (17) by a retainer (15). The retainer may be a pin, bolt or screw that attaches to the snuffer (14) attachment end and is sized to fit within a hole in the handle to permit rotating the handle (17) relative to the snuffer (14) through a limited arc as shown in figures 1 and 2.

[0036] The handle (17) has a bend of about 45 degrees approxi-

mately 2 inches from the candlewick hook end. The bend convex side provides a rest for the handle when the device is not in use. Figure 1 shows the device with the snuffer (14) resting on the plate (20). In the position shown, the bend in the handle (17) rests on the same support surface as the plate. In this position the candlewick hook (16) is elevated above the support surface so any debris on the candlewick hook will not mar the surface.

[0037] The handle (17) may be rotated relative to the snuffer, as shown in figure 1, for use to make candlewick adjustments. The device is preferably in the position shown in figure 2 for straightening a candlewick. The candlewick hook stem (18) is bent at approximately a 90-degree angle relative to the end of the handle (17) and the candlewick hook (16) is at approximately a 90-degree angle to the candlewick hook stem. This places the candlewick hook at a plane approximately parallel to the handle. The candlewick hook (16) opening inside diameter is sized to be positioned over a candlewick (19) as shown in figures 3 and 4. The opening has been sized to straighten a candlewick by being placed around the wick, thus allowing lateral motion of the straightening device to contact and adjust the wick. It has been found that openings less than

1/4" make it difficult for many people to quickly and easily lower the loop around a candlewick. An opening inside diameter of 1/4" (~6.35mm) to 1/2" (~12.7mm) provides ease of lowering the loop around most available candlewicks. An inside diameter of 5/16" (~7.9mm) is preferred for common household use as it provides for ample clearance around typical wicks for ease of placing the straightening device in position, particularly for those with poor hand-eye coordination.

- [0038] The snuffer (14) is a hollow bell shape sized to enclose a candlewick at its lower end. The snuffer-opening end has a concave opening at the bottom to permit the snuffer to enclose the candlewick. The opening is deep enough to allow enclosing most candlewicks without touching. Placing the snuffer over the candlewick retains combustion products within the snuffer, which exhausts the fresh air supply, thus extinguishing the flame. In the preferred embodiment the snuffer is brass.
- [0039] When the candlewick-fixing device (11) is not in use, one can place the snuffer (14) on a plate (20) resting on a support surface. This prevents the snuffer from dirtying the wood, glass, or other material of the support surface it is desired to protect. Contact with the snuffer will dirty

surfaces, as it would contain combustion products from use. While the retainer (15) allows the handle (17) to rest in either direction, it is preferable for the handle to be in the position shown in figure 1 so that the candlewick hook (16) does not touch the surface the device rests on.

[0040] Additional Embodiments

[0041] An alternate embodiment of the candlewick-fixing device is to make the handle of a material other than brass. Alternatives are other metals, such as steel, bronze, pewter, rhodium, stainless steel, or aluminum; a ceramic; or heat resistant plastic. Hardwood may also be used if the length of the candlewick hook stem is long enough so the handle does not come in contact with the candle flame.

[0042] Another embodiment of the combination candlewick-straightening device and candlewick flame snuffer is to make the snuffer of a flame resistant material other than brass. Steel or a ceramic may be used.

[0043] Operation

[0044] The candlewick-straightening device is used as shown in figures 2, 3, and 4. The user holds the handle (17) in the position as shown in figure 2 at the desired place depending on the preferred distance of the hand from the candle

flame. When held properly, the candlewick hook stem (18) places the candlewick hook (16) at approximately a 45-degree angle from the portion of the handle in the hand. Referring to figures 3 and 4, one lowers the candlewick hook (16) circular opening around the candlewick (19) and repositions the candlewick by moving the candlewick hook (16) horizontally forward, backward, side-to-side, or at an angle in between, depending on the adjustment needed.

- [0045] The flame snuffer (14) may be used by holding the handle (17) in either the position shown in figures 1 or 2. Placing the snuffer (14) over the flaming candlewick extinguishes the flame without any candle wax spray or other hazards.